

# KA33V

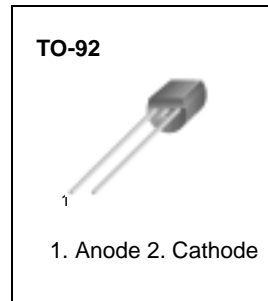
## Voltage Stabilizer

### Features

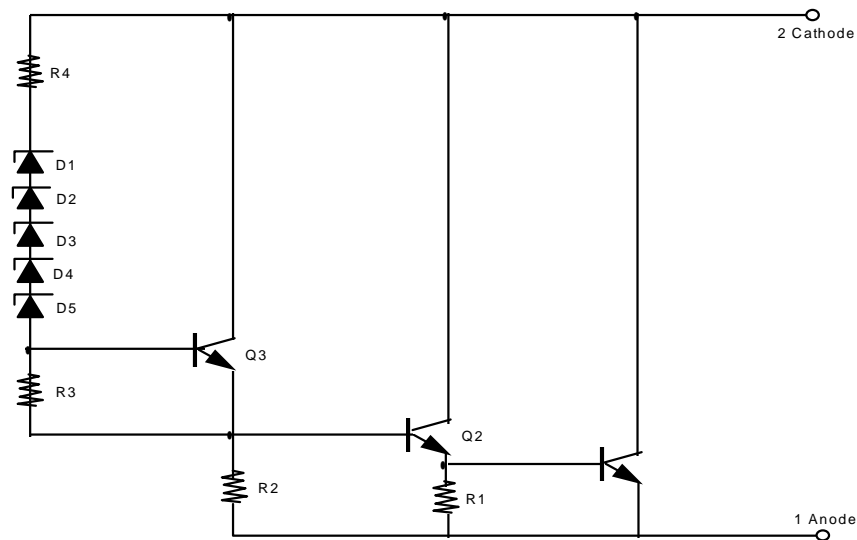
- Low Temperature Coefficient
- Low Dynamic Resistance
- Typical Reference Voltage of 33V

### Description

The KA33V is a monolithic integrated voltage stabilizer especially designed as voltage supplier for electronic tuners.



### Schematic Diagram



## Absolute Maximum Ratings (T<sub>A</sub>= 25°C)

| Parameter                                 | Symbol           | Value     | Unit |
|---|------------------|-----------|------|
| Zener Current                             | I <sub>Z</sub>   | 10        | mA   |
| Power Dissipation (T <sub>A</sub> = 75°C) | P <sub>D</sub>   | 200       | mW   |
| Operating Ambient Temperature Range       | T <sub>OPR</sub> | -20 ~ 75  | °C   |
| Storage Temperature Range                 | T <sub>STG</sub> | -40 ~ 125 | °C   |

## Electrical Characteristics (T<sub>A</sub> = 25°C)

| Parameter                            | Symbol              | Conditions   | Min. | Typ. | Max. | Unit  |
|--------------------------------------|---------------------|--|------|------|------|-------|
| Stabilized Voltage                   | V <sub>Z</sub>      | I <sub>Z</sub> = 5mA                                 | 31   |      | 35   | V     |
| Stabilized Voltage-Temperature Drift | ΔV <sub>Z</sub> /ΔT | I <sub>Z</sub> = 5mA<br>T <sub>A</sub> = -20 to 75°C | -1   | 0    | 1    | mV/°C |
| Dynamic Resistance                   | R <sub>Z</sub>      | I <sub>Z</sub> = 5mA, f = 1KHz                       | -    | 10   | 25   | -     |

## Measuring Circuits

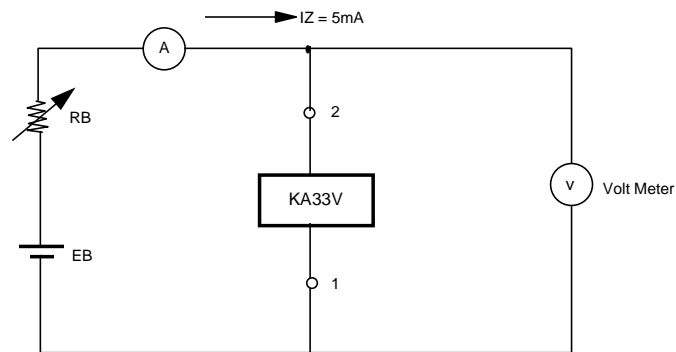


Figure 1. Measuring Circuit for Stabilized Voltage  $V_z$

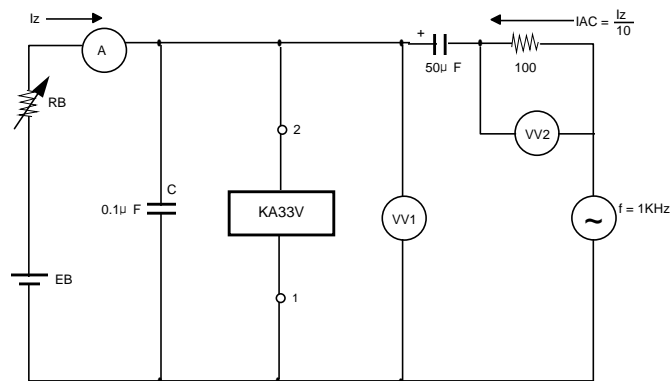


Fig. 3

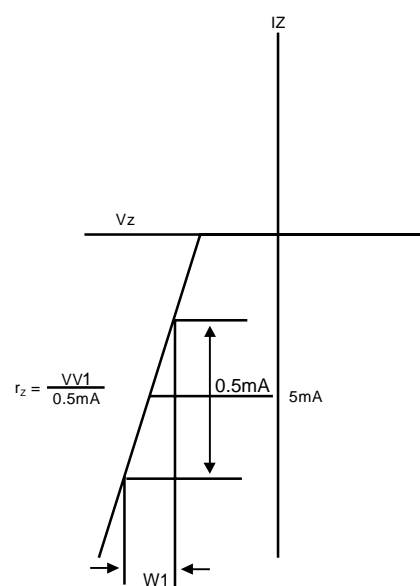
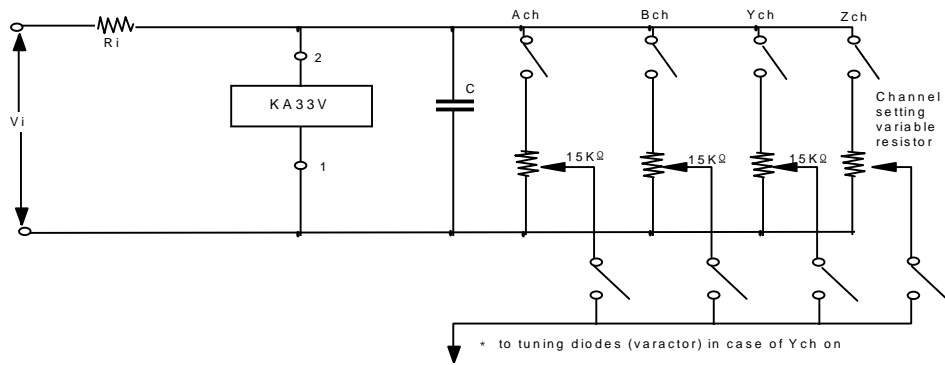
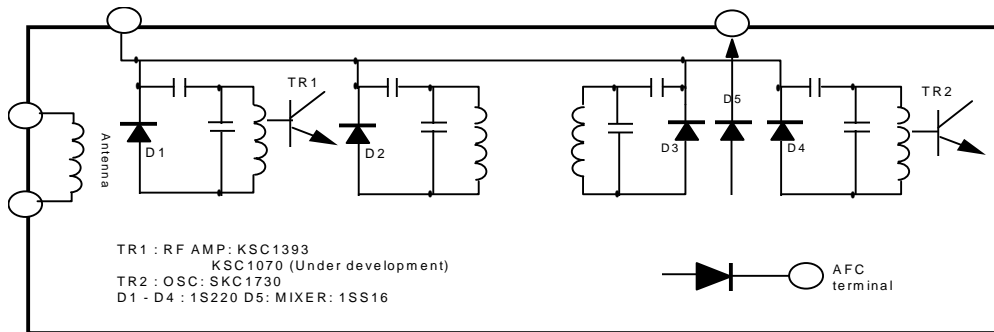


Figure 2. Measuring Circuit for Dynamic Resistance

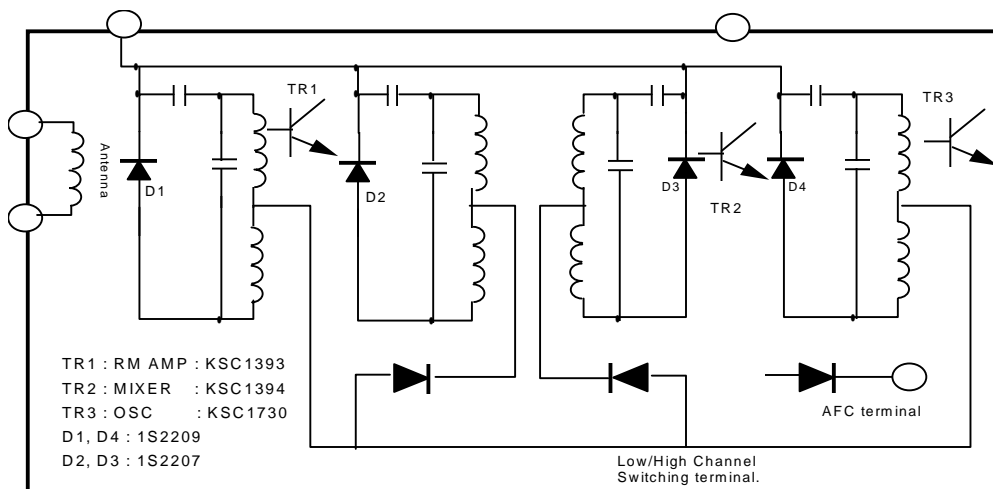
## Typical Application



### 1) UHF Tuner



### 2) VHF Tuner



# Power-temperature Derating Curve Typical Characteristic Curves

( $T_A = 25^\circ\text{C}$ )

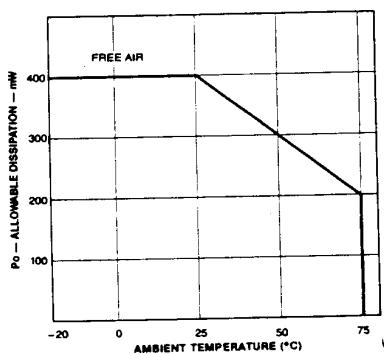


Figure 7. Allowable Dissipation vs. Ambient Temperature

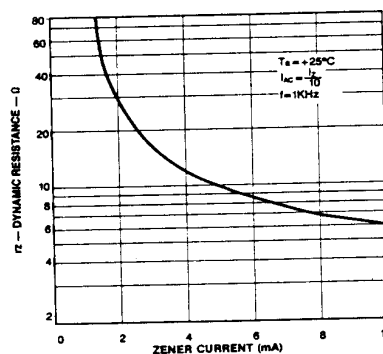


Figure 8. Dynamic Resistance vs. Zener Current

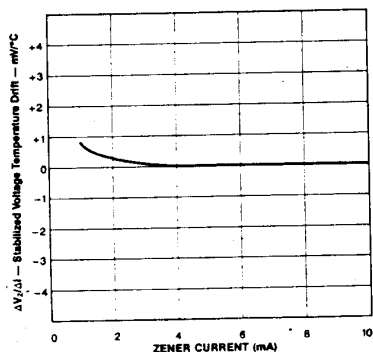


Figure 9. Stabilized Voltage Temperature Drift vs. Zener Current

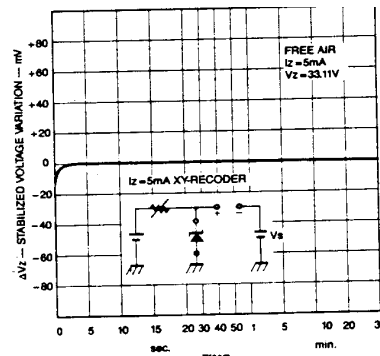


Figure 10. Stabilized Voltage Variation vs. Time

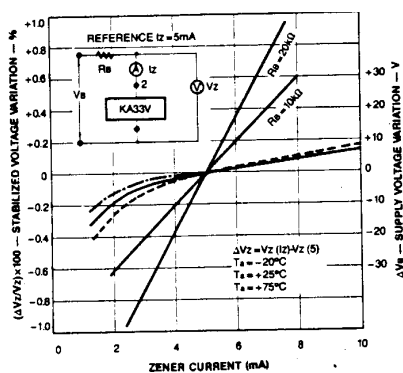


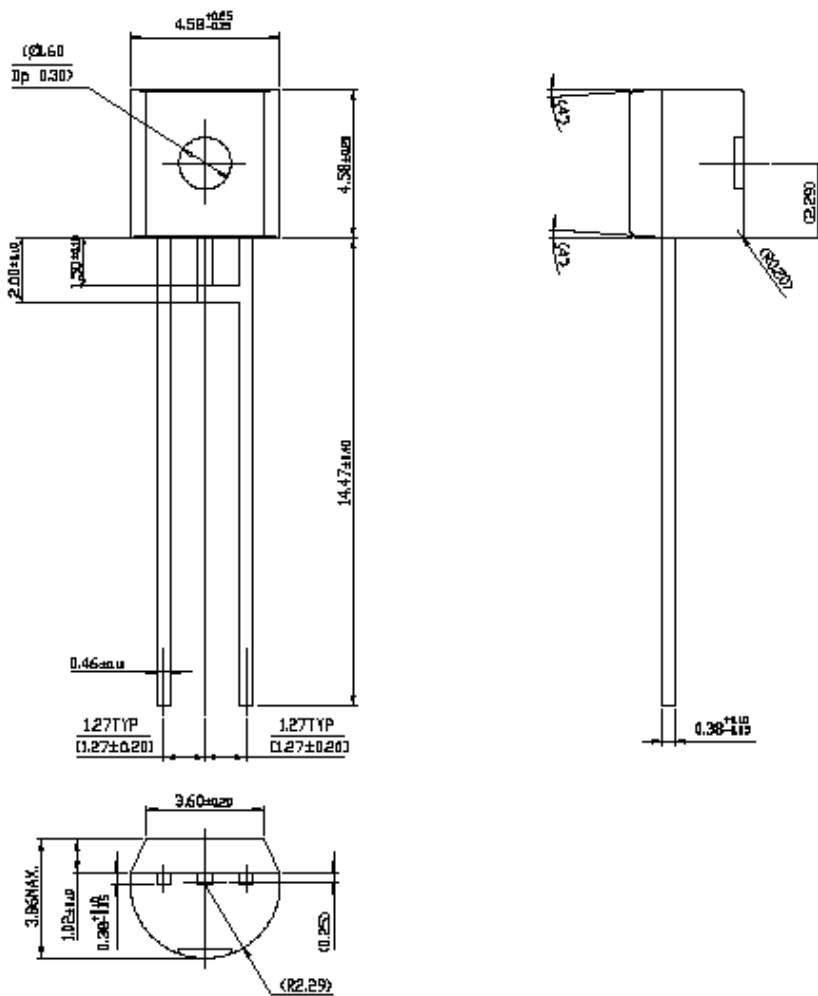
Figure 11. Stabilized Voltage Variation & Supply Voltage Variation vs. Zener Current

# Mechanical Dimensions

## Package

Dimensions in millimeters

### TO-92



## Ordering Information

| Product Number | Package | Operating Temperature |
|----------------|---------|-----------------------|
| KA33V          | TO-92   |                       |

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